

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Xunming Deng

GAU: 1795; Conf. No.: 7826

Serial No.: 10/696,545

Examiner: Jeffrey Thomas Barton

Filed: October 29, 2003

Docket No.: 1-25574/PHYS00402

For: HYBRID WINDOW LAYER FOR PHOTOVOLTAIC CELLS

Mail Stop Amendment  
Commissioner for Patents, P.O. Box 1450  
Alexandria, VA 22313-1450

REQUEST to CORRECT INVENTORSHIP  
and REQUIRED STATEMENT THEREFOR

Honorable Sir:

Pursuant to the requirements of 37 C.F.R. §1.48(a)(3), I, *Xianbo Liao*, hereby state and declare that my omission as a listed inventor in the above identified United States Patent Application 10/696,545, entitled "Hybrid Window Layer For Photovoltaic Cells" occurred without any deceptive intent on my part.

Attached hereto the following documents also signed by me: Declaration for Utility Application, and a Power-of-Attorney.

This statement is made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

8/31/2009  
Date

Xianbo Liao  
Xianbo Liao

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REQUEST to CORRECT INVENTORSHIP  
and REQUIRED STATEMENT THEREFOR

Honorable Sir:

Pursuant to the requirements of 37 C.F.R. §1.48(a)(3), I, *Wenhui Du*, hereby state and declare that my omission as a listed inventor in the above identified United States Patent Application 10/696,545, entitled "Hybrid Window Layer For Photovoltaic Cells" occurred without any deceptive intent on my part.

Attached hereto the following documents also signed by me: Declaration for Utility Application, and a Power-of-Attorney.

This statement is made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

8/31/09  
Date

*Wenhui Du*  
Wenhui Du

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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CONSENT OF ASSIGNEE TO CORRECT INVENTORSHIP

Honorable Sir:

Pursuant to 37 C.F.R. § 1.48(a)(5) consent is hereby given to correct the inventorship in the above-identified patent application. Pursuant to 37 C.F.R. §3.73, submitted herewith are the following:

- Copy of an executed assignment from newly added inventors Xianbo Liao and Wenhui Du;
- Copy of the Recorded Chain of Title for named inventor Xunning Deng, recorded on April 19, 2004 at Reel/Frame: 014528/0627

Pursuant to 37 C.F.R. §3.73(2)(i), I, Frank J. Calzonetti, Ph.D., do hereby declare that I am an officer of The University of Toledo, the assignee of record, and duly authorized to act on its behalf.

This statement is made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

8/3/09  
Date

  
Frank J. Calzonetti, Ph.D.

Vice President for Research  
and Economic Development

\_\_\_\_\_  
Title

## ASSIGNMENT

Attorney Docket No. 1-25574/PHYS-00402

WHEREAS we,

*Xiaobo Liao, of 1162 Brookview Drive, Apt 24, Toledo, Ohio, 43606, and*

*Wenhui Du, of 4123 N. Terrace View Street, Apt 11, Toledo, Ohio, 43606*

have made certain inventions in a

### HYBRID WINDOW LAYER FOR PHOTOVOLTAIC CELLS,

filed as *United States Serial No. 10/696,545*, filed *October, 29, 2003*, and

WHEREAS, *The University, of Toledo, of 2801 W. Bancroft Street, Toledo, Ohio*, organized and operating in the State of Ohio, herein called "ASSIGNEE", is desirous of acquiring our entire right, title, and interest in said invention and application therefor, and in any patent or patents to be obtained therefor;

NOW, THEREFORE, To All Whom It May Concern, be it known that, for and in consideration of the sum of One Dollar (\$1.00), and other good and valuable considerations, the receipt of which is hereby acknowledged, we have sold, assigned, and transferred, and by these presents do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions, including the right to claim priority to said Inventions; (b) in and to all rights to all United States and corresponding non-United States patent applications and Patent(s), including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise; (c) in and to any and all applications filed and any and all Patent(s) granted on said Inventions in the United States, in any foreign country, or under any international convention, agreement, protocol, or treaty, including each and every application filed and any and all Patent(s) granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); and (d) in and to each and every reissue, reexamination, or extensions of any of said Patent(s).

And we further covenant and agree that we will, at the request and expense of the said Assignee, execute such other and further assurances of title as may be necessary or proper to fully convey the interest herein sought to be conveyed; that we will, at the request and expense of the said Assignee, execute such application papers as may be desired by the said Assignee for the filing of any division or renewal of the application herein conveyed, or for the reissues or extensions of any Letters Patent that may be granted upon said application, and will execute such Supplemental Oaths and Preliminary Statements, or other papers as desired by the said Assignee.

And we further assign unto the said Assignee our whole right, title, and interest to the invention disclosed in the application throughout all countries foreign to the United States, and do hereby authorize the said Assignee to apply for patents therefor in its own name in countries where such procedure is proper and to claim the benefit of the International Convention and do agree to execute applications for the said invention in the several countries where it is necessary that the same be executed by the inventors, and to execute assignments of such applications and the patents to be obtained therefor to the said assignee, as well as all other necessary papers.

We do hereby authorize and request the Commissioner of Patents or other proper Officer, to issue such Letters Patent, or any of them, to the said Assignee, as the assignee of our entire right, title, and interest in and to the same for the sole use and behalf of the said Assignee, and its successors or assigns.

ASSIGNMENT

Attorney Docket No. 1-25574/PHYS-00402

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my seal at

Toldeo (city), Ohio (state), this 31 day of Aug., 2009

Xianbo Liao  
Xianbo Liao

STATE OF Ohio )  
COUNTY OF Lucas ) :ss

This 31 day of Aug., 2009, before me, a Notary Public in and for the County aforesaid, personally appeared Xianbo Liao, personally known to me and known to be the person described in and who executed the foregoing assignment and acknowledged the same to be his voluntary act and deed, and that he executed the same for the uses and purposes therein set forth.



W. GRANGER SOUDER, JR.  
Notary Public, State of Ohio  
My Commission Has No Expiration  
Section 147.03 O.R.C.

[Signature]  
Notary Public

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my seal at

\_\_\_\_\_ (city), \_\_\_\_\_ (state), this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

Wenhui Du

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) :ss

This \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_, before me, a Notary Public in and for the County aforesaid, personally appeared \_\_\_\_\_, personally known to me and known to be the person described in and who executed the foregoing assignment and acknowledged the same to be his voluntary act and deed, and that he executed the same for the uses and purposes therein set forth.

\_\_\_\_\_  
Notary Public

**ASSIGNMENT**

Attorney Docket No. 1-25574/PHYS-00402

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my seal at

\_\_\_\_\_ (city), \_\_\_\_\_ (state), this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

\_\_\_\_\_  
*Xianbo Liao*

STATE OF \_\_\_\_\_ )

:ss

COUNTY OF \_\_\_\_\_ )

This \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_, before me, a Notary Public in and for the County aforesaid, personally appeared \_\_\_\_\_, personally known to me and known to be the person described in and who executed the foregoing assignment and acknowledged the same to be his voluntary act and deed, and that he executed the same for the uses and purposes therein set forth.

\_\_\_\_\_  
Notary Public

-----  
IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my seal at

\_\_\_\_\_ (city), \_\_\_\_\_ (state), this \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_.

*Wenhui Du*  
\_\_\_\_\_  
Wenhui Du

STATE OF \_\_\_\_\_ )

:ss

COUNTY OF \_\_\_\_\_ )

This \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_, before me, a Notary Public in and for the County aforesaid, personally appeared \_\_\_\_\_, personally known to me and known to be the person described in and who executed the foregoing assignment and acknowledged the same to be his voluntary act and deed, and that he executed the same for the uses and purposes therein set forth.

\_\_\_\_\_  
Notary Public



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231



APRIL 26, 2004

PTAS

\*7000791754\*

EMCH, SCHAFER, SCHAUB ET AL.  
CATHERINE B. MARTINEAU, ESQ.  
P.O. BOX 916  
TOLEDO, OH 943697-0916

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 04/19/2004

REEL/FRAME: 014528/0627  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

DENG, XUNMING

DOC DATE: 03/29/2004

ASSIGNEE:

THE UNIVERSITY OF TOLEDO  
2801 W. BANCROFT  
TOLEDO, OHIO 43606

SERIAL NUMBER: 10696545  
PATENT NUMBER:

FILING DATE: 10/29/2003  
ISSUE DATE:

THERESA FREDERICK, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS